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Throughout my life as a social psychologist, I have had two major goals: to design and conduct controlled experiments that shed light on how the human mind works, and to make discoveries that might be useful to people and perhaps even improve society. When I was about to enter graduate school, I had stars in my eyes so, understandably, the second goal was far more prominent than the first. However, by the time I earned my PhD, I had discovered that, as a scientist, **there is no way to do good in the world without first being able to do good research.**

My great good fortune was that I entered Stanford as a student the same year that Leon Festinger joined the faculty as a professor. At that time, Festinger was developing his theory of cognitive dissonance, which proposed that when a person simultaneously holds two contradictory cognitions, he or she experiences an unpleasant feeling of discomfort (dissonance). The person is motivated to reduce that dissonance by altering one or both cognitions, bringing them into consonance. This simple theory led us to make predictions about human behavior that were bold, exciting, and innovative.

For example, in the first experiment I ever designed, Jud Mills and **Aronson & Mills** demonstrated that people who went through a severe initiation to join a group later liked the group better than those who went through a mild initiation. We didn't try to convince people that their group was terrific; rather, we set up a situation where they convinced *themselves* that the group was terrific. The cognition "I went through hell and high water to get into this group" was dissonant with the fact that the group was actually pretty boring. Therefore, following a severe initiation, they were inclined to convince *themselves* that those boring group members were quite charming. The people who didn't have to go through a severe initiation saw the group for what it was.

In another experiment, my students and I showed that children who were threatened with severe punishment if they played with a forbidden but attractive toy were eager to play with it anyway as soon as they had the chance. But children who had been threatened

Cognitive Dissonance (Festinger) = One would experience a feeling of discomfort when holding 2 contradictory cognitions --> thus, he/she is motivated to reduce that "dissonance" by ALTERING one or both cognitions --> to bring back "consonance" in one's mind

Aronson et al.: Comparing btw Children having been threatened with severe punishment and those having been threatened with mild punishment: WHICH GROUP would play with the "forbidden but attractive toy" MORE? 351

***Having been threatened with SEVERE punishment > Having been threatened with MILD punishment

with mild punishment resisted the temptation and avoided the toy. Why? Because those under threat of mild punishment lacked justification for ignoring the toy (in the form of severe punishment), they convinced themselves that the toy was not worth playing with ("it is a lousy toy anyway").

These experiments not only formed the foundation of dissonance theory, they also taught me one of the enduring lessons that guided my research for the next fifty years: Although it's true that changing people's attitudes (through communication) sometimes changes their behavior, to produce a more enduring change it is imperative to induce a change in behavior first; attitude change will follow.

After conducting several experiments testing this theory, I proposed a change in the definition of cognitive dissonance. I argued that the essence of the theory is not inconsistency between any two cognitions; rather, the theory makes its most powerful predictions when the individual's behavior is dissonant with his or her self-concept (e.g., "I am a moral person" but "I have just committed an immoral act," or "I'm incompetent at this" but "I have done really well on this assignment"). Thus, in one experiment, we showed that people who didn't expect to do well on a task actually felt dissonance when they succeeded. In another experiment, we showed that when we bolstered people's general level of self-esteem, they subsequently resisted the temptation to behave dishonestly – because "I'm a terrific person" would be dissonant with "I just cheated."

The experiments inspired by dissonance theory changed the way psychologists thought about how the mind works, challenging the prevailing behaviorist view that people are primarily reinforcement machines, motivated almost exclusively by rewards and punishments. These experiments also underscored the importance of the self-concept in cognitive and social psychology.

Whatever became of my initial starry-eyed desire to do good? The opportunity emerged in 1971, while I was teaching at the University of Texas. The Austin public schools were abruptly desegregated; contrary to liberal hopes that increased contact between ethnic groups would reduce prejudice, all hell broke loose. Within a few weeks, the schools erupted in hostility, with interracial taunting and fistfights in the schoolyards. It became vividly clear that desegregation wasn't working in Austin – or anywhere else, for that matter.

The school superintendent asked for my help – and, because the system was in crisis, he agreed to implement any suggestions I might make. After spending a few days observing classrooms, my students and I determined that the hostility had two interrelated causes: unequal preparation and

For longlasting (enduring) change:

***Behavior Change --> Attitude Change

<== because of the phenomenon of cognitive dissonance

e.g.:
Dissonance:
**Did NOT expect to do well on a task
--> succeeding in doing the task

**Bolstered general level of self-esteem --> resisting temptation to behave dishonestly (choosing not to cheat)

***Aronson: Changed the definition of cognitive dissonance:

Cognitive Dissonance happens, when:

Inconsistency (dissonance) btw one's behavior and one's self-concept

Problem with segregation between White and Black people in the 70s

Increased contact -X-> reduction in prejudice

Aronson et al.: two interrelated causes to (unequal preparation, relentless competition) --> Racial Hostility

relentless competition. The schools in the minority areas of Austin were inferior to those in the more affluent white neighborhoods; as a result, a typical sixth-grade minority student was reading at a fifth-grade level. With desegregation, minority kids were thrust into a highly competitive situation where they were guaranteed to lose. This exacerbated the existing stereotypes. If someone had intentionally designed a system guaranteed to make school desegregation fail, they couldn't have done a better job.

What was needed was a complete restructuring of the classroom atmosphere to reduce competition and increase cooperation. We invented the jigsaw classroom, so named because it works like the assembling of a jigsaw puzzle. We organized the students into ethnically diverse six-person groups. Each student was given a unique piece of the lesson (e.g., one paragraph of a six-paragraph biography), and required to teach it to the others so that, at the end of thirty minutes, all students could gain mastery of the entire biography. To accomplish this, the students needed to pay close attention to their teammates, helping and encouraging those having trouble presenting their segment.

We conducted a controlled experiment, comparing students in jigsaw classrooms with students being taught the same material by some of the best teachers in the system using traditional techniques. The results were striking: After only six weeks, students in the jigsaw classroom had higher self-esteem, higher scores on objective exams, lower absenteeism, less prejudice, and greater empathic ability than students in traditional classrooms. Close friendships developed within and across racial boundaries. In short, jigsaw made school desegregation work. We replicated the original experiment several times.

***Results:

Jigsaw group = Higher Self-Esteem, Higher scores on objective exams, Lower absenteeism, Less prejudice, Greater empathic ability

==> Interracial close friendships across racial boundaries

***Evidence:

Behavior Change
--> Higher Self-Esteem
--> Attitude Change

Elated by jigsaw's stunning success, I spent the next decade doggedly trying to give it away – mostly in vain. I learned that educational bureaucracies are reluctant to adopt radical structural changes. Happily, I also learned that patience is necessary. Novel ideas often need time to mature. Over the next four decades, jigsaw gradually caught on and is now being used in thousands of classrooms throughout the United States, Europe, and Asia.

Having had my appetite whetted by the success of doing good research to do good in the world, in the 1980s I turned my attention to the AIDS epidemic. Because AIDS is caused primarily by sexual contact, and because condoms are effective at preventing sexually transmitted diseases, AIDS prevention therefore seemed merely a matter of convincing sexually active people to use condoms. Merely? Across the nation, public-

Aronson et al.:
Controlled
Experiment

Experimental group
= Students in
jigsaw classrooms

Control group
= Students taught
by best teachers using
traditional techniques

service information campaigns were producing a negligible effect on condom use. For example, on my campus, after a vigorous information campaign, the percentage of sexually active students regularly using condoms increased from 16 percent to 19 percent. Although almost all college students believed condoms could prevent AIDS, most considered their use to be an unromantic nuisance.

My graduate students and I turned to cognitive dissonance theory. We reasoned that because self-esteem is an important aspect of cognitive dissonance, and because nobody wants to believe that he or she is a hypocrite, we set out to put people in a position where they were not practicing what they were preaching – i.e., where they were in danger of behaving hypocritically. We predicted that once sexually active people were confronted with the fact that they were advocating behavior that they themselves were not practicing, they would be motivated to modify their behavior to preserve their integrity.

In our experiment, we instructed college students to compose a speech describing the dangers of AIDS and advocating the use of condoms. In the hypocrisy condition, students (1) recited their speech to a video camera and were informed that the video would be shown to high school students, and (2) were made mindful of their own prior failure to use condoms by reciting the circumstances in which they failed to use them in the past. In the control conditions, students either videotaped their speech without having been made mindful or were made mindful without videotaping their speech. Several months later, as part of an “unrelated” telephone survey, participants were asked about their sexual behavior. Almost 60 percent of the people in the hypocrisy condition reported using condoms regularly – about three times the number in the control conditions. Subsequently, my students applied the hypocrisy paradigm, with great success, to induce people to conserve water during a drought, exercise regularly for their health, and apply sunscreen to prevent skin cancer.

My contributions to dissonance theory and to improving classroom structure are interwoven themes in my life’s work. Both reflect my deep belief in the importance of doing controlled, theory-based experimental research, whether in the laboratory or the real world. Both reflect the excitement of making meaningful discoveries that have staying power over the decades. And they both show how good science helps us understand the wonders and complexities of the human mind, and is the first step to doing good in the world.

Aronson et al.:

Hypothesis:
Confrontation of one's hypocrisy
--> Self-Esteem
(--> Cognitive Dissonance)
--> Behavior Change

***Results:

Hypocrisy group: Having recited speech to a video camera to talk about how they have failed to use condoms in the past (being made MINDFUL of their own prior failure)
--> 60% reported using condoms regularly

Compared to just 20% of those in the control group reported using condoms regularly

*****KPH (2022, Feb 22): Applications in education:

Explicitly stating that a child (e.g., a bully) is or can be a good and behaving student who knows how to love and care for other students --> enhances that child's Self-Esteem (and Cognitive Dissonance)
--> the child's Behavior Change (toward behaving more caring to other students and engaging less in bullying behavior)

***Punishment --> Low Self-Esteem (Cog. Consonnace) --> More Bullying/Disruptive Behavior
***Praising or Enhancing One's Positive Self-Concept --> Higher Self-Esteem & Cognitive Dissonance --> Behavior Change (from disruptive to good behavior)

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